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VEGETABLE PATHOLOGICAL

## United States Department of Agriculture,

WASHINGTON, D. C., OCTOBER 1, 1886.

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DEAR SIR:

In investigating the potato rot, it has been found desirable to obtain a more extended and complete knowledge of its distribution and of the losses occasioned thereby, in various parts of the United States. With this end in view the following questions have been prepared, with the full assurance that the great economic importance of this subject will be sufficient to insure your prompt co-operation.

Very respectfully,

NORMAN J. COLMAN,

COMMISSIONER.



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### POTATO ROT.

The potato rot is caused by a parasitic fungus, *Phytophthora infestans*, which grows in leaves and stems as well as in tubers. Early in the growing season the external threads of the fungus may be detected on the stems and leaves of the potato in the form of patches of fine white mould, which causes, later on, a more or less extensive browning and decay of these parts. The rot of the tubers may be either dry or wet, and may continue after the potatoes are dug and housed. The disease has been known for many years. It is present each year, but is disastrous only in exceptional seasons. It is believed to be worse in wet than in dry weather; on low land than on uplands; on clay soil than on sand; in thin-skinned white varieties than in thick-skinned red ones.

1. In your county, about what per cent of this year's potato crop was destroyed by rot?

2. What per cent. of last year's crop was so destroyed?

3. About what per cent. of the harvested crop of 1885 was lost during the winter and spring by a continuation of the rot in cellars and storage pits?

4. Were any varieties entirely free from rot, or freer than others?

5. Was the season in 1886 wet or dry? In 1885?

## BLACK ROT.

It has been shown that what is generally known as "*The Grape Rot*" may arise from  
 1st. From insects. 2nd. From the Downy grape-vine mildew. 3d. From a fungus which  
 last produces the disease now specifically recognized as "*The Black Rot.*" It is common  
 of June or in July, usually after protracted rains, fogs or heavy dews. The first  
 manifestation of the disease is a brown spot with a dark central point upon the  
 berries. This spot increases in size and intensity of color and soon minute, shining points  
 to protrude above the epidermis, finally the whole berry, still adhering to the vine, turns  
 to an intense bluish-black color while the entire surface is roughened with the little points  
 in which are imbedded the spore-forming sacs of the *Phoma*.

1. Has the Black Rot appeared in your vineyard or in those of your neighbors?  
 so, at what period was it first noticed?

2. What is the estimated percentage of loss per annum, occasioned in your cultivation  
 of this disease?

3. What varieties are most subject to its attacks?

4. What remedies have you employed, to check its ravages, and with what result?



6. Did early or late varieties rot most?

7. Did you observe any instances in which location (wet or dry), or quality of soil (sand, loam, clay, etc.) affected the severity of the disease?

8. Did the weather (cold or hot, wet or dry) exert any marked influence?

9. What remedies or means of prevention, if any, did you try? and with what results?

[In case there was no rot, your statement to that effect will be of use.]

*There has been no Rot in this Section  
of any account*

*W. A. Hopkin*

